Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-58 (Cancelled)

59. (Currently amended) A nanostructure having at least one elongated structure element of a first material, said elongated structure element being 100nm in length or less and having [[-]] at least ~~one~~ two end ~~portion~~ portions, each end portion being coupled to ~~at least one~~ a corresponding nanozone~~;~~ ~~and at least other end portion capable of coupling to a further nanozone; wherein~~and each of said ~~nanozone and further nanozone each~~ nanozones being of a second material that differs from said first material in at least one property selected from electrical conductivity, chemical reactivity and composition.

60. (Previously presented) The nanostructure according to claim 59, wherein the second material is a metal or metal alloy.

61. (Previously presented) The nanostructure according to claim 59, wherein the second material is a conductive polymer or an insulating material.

62. (Previously presented) The nanostructure according to claim 59, wherein the second material is a semiconductor material.

Claims 63 and 64 (Cancelled).

65. (Currently amended) The nanostructure according to claim 59, wherein said first and second materials are each a semiconductor material ~~is~~ selected from Group II-VI semiconductors, Group III-V semiconductors, Group IV-VI semiconductors, Group IV semiconductors, alloys made of these semiconductors, combinations of the semiconductors in composite structures and core/shell structures of the above semiconductors.

Claim 66 (Cancelled).

67. (Currently amended) The nanostructure according to claim ~~65~~ 59, wherein said first material is CdSe or CdSe/ZnS in a core/shell layered arrangement and said second material is gold.

68. (Previously presented) A method for forming a nanostructure having at least one elongated portion, of a first material, and a nanozone of a second material on at least one of its end portions, said first and second materials being different in at least one property selected from electrical conductivity, chemical reactivity and composition, said method comprising:

- providing a solution of nanostructures, each nanostructure having at least one elongated structure element of a first material;

- contacting said nanostructures in solution with an agent of a second material, said agent being selected from a metal source, a metal alloy source, a conductive polymer source, an insulating material source and a semiconductor source; and

- allowing growth of said at least one agent of a second material on at least one end portion of the elongated portion of each of said nanostructures, to thereby obtain nanostructures bearing at least one nanozone on at least one end portion of said at least one elongated structure.

69. (Previously presented) The method according to claim 68, wherein said agent is selected from a metal source and a metal alloy source.

70. (Previously presented) The method according to claim 68, wherein said first material is selected from a semiconductor material, an insulating material, a metal and a combination thereof.

71. (Previously presented) The method according to claim 70, wherein said first material is a semiconductor material.

72. (Previously presented) The method according to claim 71, wherein said nanostructure is selected from a bipod, a tripod and a tetrapod.

73. (Currently amended) A method for forming an electrically conductive zone on a nanostructure having at least one elongated portion, said method comprising:

- providing an organic solution of semiconductor nanostructures, each nanostructure having at least one elongated structure element;

- contacting said nanostructure in said organic solution with another organic solution comprising a metal or metal alloy source, a stabilizer and/or ~~an~~ a surfactant and/or electron donor; and

- allowing growth of said metal or metal alloy on at least one end portion of the elongated portion of each of said semiconductor nanostructures, to thereby obtain semiconductor nanostructures, bearing at least one electrically conductive nanozone of metal or metal alloy on said at least one end portion of said at least one elongated structure.

74. (Previously presented) The method according to claim 73, wherein said nanostructure is in a form selected from a nanorod, a bipod, a tripod, a tetrapod, a nanowire and a nanotube.

Claims 75-80 (Cancelled).

81. (Previously presented) A self assembled construct, comprising a plurality of nanostructures according to claim 59, wherein each nanostructure is optionally linked to another nanostructure in the construct through its conductive zone.

82(Previously presented). A solution comprising a plurality of nanostructures according to claim 59.

83(Currently amended). The solution according to claim 82, wherein each of said nanostructures ~~having~~ has an elongated structure element comprising at least ~~one~~ two end ~~portion~~ portions, each being coupled to a nanozone.

84(Currently amended). The solution according to claim 83, wherein said elongated structure ~~having~~ has two end portions, each being coupled to a nanozone.

Claim 85 (Cancelled).

86(Previously presented). The nanostructure according to claim 59, wherein each of the end portions of said elongated structure is coupled to a nanozone.

Claims 87-88 (Cancelled).

89(Previously presented). The nanostructure according to claim 59, being selected from a bipod, a tripod and a tetrapod.

90(Previously presented). The nanostructure according to claim 59, wherein said first material is selected from the group consisting of a semiconductor material, an insulating material, a metal and a combination thereof.

91(Currently amended). The nanostructure according to claim ~~67~~65, wherein said Group II-VI semiconductors are alloys selected from the group consisting of CdSe, CdS, CdTe, ZnSe, ZnS, ZnTe, and combinations thereof.